

AMENDMENTS TO THE CLAIMS

The following claim listing replaces all prior versions and listings thereof:

1. (Currently Amended) A securing device, comprising:

a spring that supports a rod at a central portion of the spring and biases the rod as the rod elastically moves back and forth;

a generally annular spring support comprising a spring mount that projects on an inner side of the spring support and is configured to support the spring, said spring support having three different inner diameters comprising in this order, a first inner diameter, a second inner diameter and a third inner diameter that is smaller than the second inner diameter, wherein said spring mount is positioned at a region of said spring support located between the second inner diameter and the third inner diameter; and

a generally annular coupling ring configured to connect to the spring support and to mount on the spring, to secure the spring between the spring support and the coupling ring such that an outer peripheral portion of the spring is prevented from movement by the spring support and the coupling ring,

wherein a portion of a first thread is formed on an inner periphery of a portion of the first inner diameter of the spring support, and a second thread is formed on an outer periphery of the coupling ring, the first and second threads configured to threadably engage each other.

2-3. (Canceled).

4. (Withdrawn) The securing device according to claim 1, wherein the coupling ring comprises synthetic resin and is configured to at least one of press and fix a periphery of the spring via a generally ring-shaped nut.

5. (Currently Amended) A securing device, comprising:

a spring that supports a rod at a central portion of the spring and biases the rod as the rod elastically moves back and forth;

a generally annular spring support comprising a spring mount that projects on an inner side of the spring support and is configured to support the spring, said spring support having three different inner diameters comprising in this order, a first inner diameter, a second inner diameter and a third inner diameter that is smaller than the second inner diameter, wherein said spring mount is positioned at a region of said spring support located between the second inner diameter and the third inner diameter;

a generally annular coupling ring configured to connect to the spring support, to secure the spring between the spring support and the coupling ring such that an outer peripheral portion of the spring is prevented from movement by the spring support and the coupling ring; and

a plurality of fixation holes extending through the coupling ring and penetratingly formed through the coupling ring, the plurality of fixation holes configured to accept a respective plurality of fixation tools, and further configured to apply a combining force between the spring support and the coupling ring and facilitate connection of said spring support to said coupling ring.

6. (Canceled)

7. (Currently Amended) The securing device according to claim 5, wherein a portion of a first thread is formed on an inner periphery of a portion of the first inner diameter of the spring support, and a second thread is formed on an outer periphery of the coupling ring, the first and second threads configured to threadably engage each other.

8. (Withdrawn) The securing device according to claim 5, wherein the coupling ring comprises synthetic resin and is configured to at least one of press and fix a periphery of the spring via a generally ring-shaped nut.

9. (Original) The securing device according to claim 5, wherein the plurality of fixation holes are at an interval of one of approximately 90° and 180° on the coupling ring.

10. (Currently Amended) A securing device, comprising:
a spring that supports a rod at a central portion of the spring and biases the rod as the rod elastically moves back and forth;
a generally annular spring support comprising a spring mount that projects on an inner side of the spring support and unitarily formed with the spring support and is configured to support the spring, said spring support having consisting of three different inner diameters, ~~consisting of~~, in this order, a first inner diameter, a second inner diameter and a third inner diameter that is smaller than the second inner diameter, wherein said spring mount is positioned at a region of said spring support located between the second inner diameter and the third inner diameter;

a generally annular coupling ring configured to connect to the spring support, to secure the spring between the spring support and the coupling ring such that an outer peripheral portion of the spring is prevented from movement by the spring support and the coupling ring; and

a plurality of threaded holes in penetratingly formed through the coupling ring.

11. (Canceled)

12. (Currently Amended) The securing device according to claim 10, wherein a portion of a first thread is formed on an inner periphery of a portion of the first inner diameter of the spring support, and a second thread is formed on an outer periphery of the coupling ring, the first and second threads configured to threadably engage each other.

13. (Withdrawn) The securing device according to claim 10, wherein the coupling ring comprises synthetic resin and is configured to at least one of press and fix a periphery of the spring with a generally ring-shaped nut.

14. (Original) The securing device according to claim 10, wherein the plurality of threaded holes are at an interval of one of approximately 90° and 180° on the coupling ring.

15-24. (Canceled)

25. (Withdrawn) A method of securing a spring to a reciprocating device, the method comprising:

inserting a spring into a generally annular spring support such that a spring mount of the spring support supports the spring; and

connecting a generally annular coupling ring to the spring support such that the spring is secured and sandwiched between the coupling ring and the spring support; and

supporting, via a central portion of the spring, a rod and biasing the rod as the rod elastically moves back and forth,

whereby an outer peripheral portion of the spring is prevented from movement by the spring support and the coupling ring.

26. (Previously Presented) The securing device according to claim 1, said spring support and said coupling ring clamping the outer peripheral portion of the spring therebetween.

27. (Previously Presented) The securing device according to claim 5, said spring support and said coupling ring clamping the outer peripheral portion of the spring therebetween.

28. (Previously Presented) The securing device according to claim 10, said spring support and said coupling ring clamping the outer peripheral portion of the spring therebetween.

29. (Withdrawn) The method of securing a spring according to claim 25, further comprising clamping the outer peripheral portion of the spring between the spring support and the coupling ring.

30. (Previously Presented) The securing device according to claim 1, said spring secured to the rod for movement with the rod.

31. (Previously Presented) The securing device according to claim 5, said spring secured to the rod for movement with the rod.

32. (Previously Presented) The securing device according to claim 10, said spring secured to the rod for movement with the rod.

33. (Withdrawn) The securing method according to claim 25, the supporting comprising securing the spring to the rod for movement with the rod.